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ABSTRACT

As expressed in this essay, the basic aim of pedagogical research on teaching methods should be to describe existing practices and to work out theories which will allow researchers to explain the causal relationships leading to extant teaching practices, which in their own turn reinforce the existing educational pattern. Research in the area of university-level instruction has consistently ignored the economic and social factors that contribute to the overall reality of university education. The study of teaching must be linked to the determinants of that activity, i.e., meaningful research cannot exist at the universities unless it is defended and anchored in political, social, and economic understanding. (Author/LH)

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... RESEARCH...
... SOME LESSONS FROM RESEARCH...

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THE STUDY OF TEACHING METHODS IN HIGHER EDUCATION:
SOME LESSONS FROM RESEARCH

DEPARTMENT OF EDUCATION
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THE STUDY OF TEACHING METHODS IN HIGHER EDUCATION:
SOME LESSONS FROM RESEARCH

Paper presented at the second congress of the European Association of Research and Development in Higher Education in Louvain-La-Neuve August 30 to September 3, 1976.

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INTRODUCTION.

Research into the problems of higher education began rather late in Sweden and in other Scandinavian countries. Until the late sixties two areas of inquiry dominated almost completely. On the one hand a certain number of studies were carried out which were mainly economic and/or demographic in character. On the other hand studies were conducted that aimed at prediction of achievement at the university level.

The first type of research tried to assess the need at the labour market for persons with different qualifications, and at a more fundamental level to assess the role and contribution of higher education to economic growth. Research in this area also included a number of studies that tried to estimate the size of an intellectual reserve, which in a highly selective system did not continue their education due to social and other "handicaps". Ideologically research in this first area contributed to create and uphold the illusion of equal opportunity in a society characterized by fundamental inequality. It was also presumed that reforms within the educational sector could affect the social structure of society as such, which lent an air of benevolence and social justice to reforms like the introduction of a common comprehensive school system and an expansion of the high school and the university. During the seventies traditional research concerning educational economics has been justly and severely criticized by a number of authors (e.g. *Altwater & Huiskens*, 1971; *Berner*, 1974; *Huiskens*, 1972).

The second type of research was concerned with the prediction of achievement at the university level. This type of research was - and still is - firmly embedded within the psychometric tradition of educational psychology. A particular kind of prediction studies aimed at investigating drop-outs with the ultimate goal of redu-

cing or preventing failure through selective measures, guidance, or remedial teaching within the university. Ideologically the psychometric tradition has always served the interests of the dominant class as justification of streaming, differentiation, etc. The shadows of Galton and Fisher loom behind the statements by e.g. Burt, Eysenck, and Jensen in their attempts to legitimize inequality via the establishment of a pseudo-science regarding the relations between heritability and educability (cf. Hirsch, 1975; Simon, 1971).

In the late sixties the picture of pedagogical research at the university level became more complex. In Scandinavia and in other European countries as well, research concerning university teaching as such became somewhat more popular. It was thought that by improving the quality of teaching (and teachers) better use could be made of the resources that were being allocated. The cult of efficiency or the necessary adaptation to a situation where resources tended to become more scarce was one of the reasons for this re-orientation. At the same time it should be noted that the trend towards the study of teaching methods became obvious at a point in time when enrollment figures rose steeply.

The prediction studies have yielded a meager crop in spite of vigorous attempts. The story of research on teaching methods in higher education is also a distressing one. What are the lessons to be learnt from that kind of research?

WHAT'S WRONG WITH RESEARCH ON TEACHING METHODS IN HIGHER EDUCATION?

During the past years a number of reviews dealing with research on teaching methods at the university level have appeared. One common denominator is that reviewers pin great hope on the generations of researchers to come, if they would be so kind as to pay attention to the sound advice given by the reviewer. Even in the area of advice there seems to exist some agreement. The suggestions are with a few exceptions well within the realms of the

established paradigm of educational research which, accordingly, is only seriously discussed on rare occasions (cf. *Kallós*, 1973a, 1973b, 1974, 1976).

The attempted merger between prediction research and teaching research did not produce any significant changes in the gloomy picture. The introduction of the concept of aptitude-treatment interaction (ATI) was theoretically important within the established paradigm. Its implications for higher education have been rather cautiously summarized by *Harnqvist* (1974). If ATI-research is evaluated from the point of view of its contributions for theory and practice of teaching it must be concluded that it has very little to offer, as I have pointed out in an earlier paper (*Kallós*, 1975). It is indeed possible to question the whole domain of traditional educational psychology as a basis for significant theoretical and/or practical development concerning schooling and teaching (*Kallós & Lundgren*, 1975).

There are at least two fundamental and inter-related questions that should be asked when we try to evaluate research on teaching methods. The first of these questions concerns the implicit and/or explicit conceptualization of the phenomena in question that govern e.g. the formulation of research problems and the views of the research territory. The second question has to do with the notion of "science" and "scientific research" that govern the accumulation of data, the interpretation of data, and again the formulation of research problems and certain aspects of the views of the territory under study.

I would argue that a narrow view of teaching and teaching methods coupled to a narrow view of science is dominating inquiries into teaching today in the capitalist societies. The narrow view of science contains beliefs that science is value-free, nomothetic, and descriptive. The narrow view of teaching regards it as a series of psychological phenomena which in principle might be reduced to certain laws of learning, or explains teaching from other psychological theories which obviously redu-

ce the reality of teaching almost beyond belief. Fundamentally research is based on an idealistic conceptualization of man and society as opposed to a materialistic conceptualization.

On a somewhat general level it might be stated that pedagogical research should aim at a description of existing pedagogical practices and at working out theories which enable us to explain the causal relationships that gave birth to these practices. At a high level the immediate causes are linked to the political and economic structure of the society in question. Pedagogical research should furthermore aim at analyzing the space of options open to various social forces within the present structure and its possible dynamics. Such an analysis has as its logical next step research that aims at describing a limited number of possible alternative strategies and the consequences of their eventual implementation.

If we try to apply these somewhat general statements to the field of pedagogical research on teaching methods in higher education certain specific issues are brought into focus.

One such issue concerns the functions of teaching at the university level. The American educational economist Herbert Gintis once noted that educational reformers commonly err by treating schooling as if it existed in a social vacuum (Gintis, 1972). A similar judgement could be passed on researchers interested in university teaching. It is perhaps not surprising that reviews of research on teaching methods in higher education (e.g. McKeeachie, 1963; Dubin & Taveggia, 1968; Beard & Bligh, 1971; Costin, 1971; Trent & Cohen, 1973; Johnson et al, 1975a) fail to discuss teaching in relation to its functions as these are derivable from an analysis of the society at the political and economic level. Thereby means and ends get confused and the process of teaching at the university level seemingly differs in no scientifically important way from teaching at e.g. the level of the comprehensive school. The only differences of scientific importance seem to be due to

the fact that students are older (more mature) and supposedly possess more knowledge than pupils at lower levels within the educational system. Thus an analysis of the specific function of the university within a class society is not taken into account in the discussion about teaching. The fact that the university "socializes" students into certain positions within the class society and that teaching plays an important part in that process is not analyzed nor acknowledged.

The problematic may perhaps be made even more visible if we note that discussions about teaching methods in higher education more or less start in the classroom (or whatever name we should give to the spaces allotted for teaching purposes within the university). Teaching is linked to learning and the analysis of teaching and what it is about, is accordingly carried out in terms of the activities of teachers and students. The teaching process is conceived as a more or less perfect instrument for learning and development in as many students as possible as this learning and development may be measured by the use of any conceivable measurement technique. But one is doomed to fail in explaining or understanding anything that goes on in the classroom, in the lecture hall, or in the laboratory if such assumptions are used as startingpoints. The situation will be even more confused if one conceives of the teaching process as an instrument constructed by the use of rational and deliberate educational planning procedures in accordance with stated objectives in the curriculum. In principle this is due to a rather simple fact. The inner work of schools and universities, as this work is executed by teachers and students within the classroom, fulfills a number of mutually dependent functions at the same time. These functions may only be combined with one another in such a way that they mutually constrain and determine each other. At the level of the comprehensive school we may confidently state that the school does not offer the possibility for further development of knowledge and skills adapted to the prior experiences or the future objective interests of a majority of the

children forced to attend the school. The school and the university offer its pupils a preselected and predetermined body of knowledge and skills that in principle is derived from the interests of a dominant class. Or as Pierre Bourdieu sees it:

"Indeed, among all the solutions put forward throughout the history to the problem of transmission of power and privileges, there surely does not exist one that is better concealed, and therefore better adapted to societies which tend to refuse the most patent forms of the hereditary transmission of power and privileges, than that solution which the educational system provides by contributing to the reproduction of the structure of class relations and by concealing, by an apparently neutral attitude, the fact that it fills this function."
(Bourdieu, 1973, p. 73)

The changed social recruitment pattern and the increased number of students that now have access to the university have probably changed the functions of the university in comparison with a situation that existed e.g. 25 years ago in countries like Sweden. Higher education today has to a certain extent moved from being a closed institution for the élite. Today it is open for a larger fraction of the population and its tasks to differentiate within the middle class is evident. It should be emphasized that although the number of students with working class origin has increased at the university level, the proportion of students from strata above the working class has increased even more, at least in Sweden (cf. Gæsser et al, 1971; Gæsser, 1976). It is perhaps even more important to recognize the fact that even if the recruitment pattern has changed the content and the work forms within the universities still have almost nothing in common with the objective interests of the working class (cf. also Fischer, 1974). To the working class students the university continues the repression, and the knowledge presented is still a substitute for that necessary to (or in the objective interests of) their class. From the point of view of the working class a certain social mobility is achieved. This would imply that social mobility has become an "Ersatz" - a poor substitute - for social change.

Studies of teaching methods which fail to take into account the determinants of such methods in relation to the functions of teaching at the university level will inevitably fail both in describing teaching and in explaining why a certain method is used and why certain results are achieved.

On the other hand there is a risk involved in regarding curricula and teaching as directly and concretely derivable from an analysis at the political and economic level. Curricula and teaching are not mere mechanic mirror images or concrete expressions of the political and economic structure of the society in question. They represent particular solutions within the constraints and the dynamics of that structure. This means that we at the level of the curriculum and of teaching can conceive of somewhat different solutions, and that we always have to take into account a certain space of options existing for e.g. teachers at the university level. We furthermore have to note that objectives of teaching as presented in curricular guides etc. to a decisive extent are to be regarded as ideological documents, and not as actual descriptions of what is to be achieved in reality, nor as descriptions of what actually can be achieved within the constraints existing.

Within the frames of a given curriculum, within the space offered by allocated time and other resources, within the context of existing social relations between teachers and students, within the restrictions created by the composition of the student group and by the marking and examination system in existence the university reproduces what the legitimate judge considers as important. This means that the teacher and the student will try to adjust teaching and learning so that it can be internally evaluated.

In general university teaching fulfills its functions rather well. In discussing the critique against schools and schooling *Feinberg & Rosemont* (1976, p. 12) note that most critics have assumed the opposite, and concluded that education is in need of radical change. At

the same time most seem to assume that such change can be brought about by changes in teacher behavior and in teaching methods. Thus "poor teaching" is the result of "poor teachers" (or perhaps due to the fact that "good teachers" have to teach "poor students").

Researchers thus separate curriculum theory, implementation theory, teaching theory and theories about how students learn.

With certain variations those involved in teaching (students and teachers) execute functions of which they are not the masters due to the fact that these functions are determined by the superordinate structures of the society and partly even beyond the explicit consciousness of those involved and definitely outside their scope of action (cf. *Callewaert & Lundgren*, 1976). The contradictions to be observed at the level of teaching, the "inadequacies" to be "criticized" is then not in essence primarily due to inadequate behavior on part of teachers and students, nor to the effects of faulty planning¹⁾.

The various restrictions under which university teaching exists may be regarded as overt expressions of the structural determinants of teaching. In earlier papers I have discussed these constraining and directing influences as "frame factors" borrowing a term introduced by *Dahllöf* (1969) and independently and somewhat differently used later by *Bernstein* (1971). The concept of frame as it has been developed could serve as a useful concept providing a mediating link that enable us to discuss teaching

1. In relation to schooling at levels below the university *Feinberg & Rosemont* (1976) pointedly note:

"Granting the many strengths of the new criticism, its outstanding weakness has been the rather simplistic assumption that the source of the problem could be located in some quirk of personality on the part of individuals. When it was found that the teachers in a particular school were racist or that others were generally resentful of any expression of individuality, the implication was that the problem had been explained. Unfortunately the new critics did not make a sharp distinction between the standards by which the competency of a teacher ought to be judged and the reasons why such standards are generally not operational - why teachers can get away without meeting them. If a teacher continuously discourages the expression of individuality or real creativity, or if he consistently treats black youngsters as inferior to whites, then there is good reason to question his general competence. If, in addition, he does these things and gets away with them, then there is good reason to believe that the source of the problem lies in other areas." (p. 6)

level has demonstrated that there exists a number of means whereby the requirements of the curriculum can be met. Recent development include the so called Keller plan and other individualizing techniques (cf. e.g. *Goldschmid & Goldschmid*, 1974, 1976). What is interesting is that such methods seemingly work if and when they are implemented. Those who do not like e.g. behavioral technology may find some encouragement in the fact that small group discussions under conditions similar to those of sensitivity training also work, provided that they may be implemented. The work by Rothkopf and his associates strongly suggests that learning from written material may be facilitated through the use of various adjunct aids such as inserted questions etc. provided that the students actually read the books (cf. *Rothkopf*, 1970; *Nelsson*, 1976).

Methodological developments like the Keller plan and the research by Rothkopf and associates started at the college and university level. It is also interesting to note that several of the teaching methods proposed were first used with students in psychology or education. In many instances the reports of the studies are written by persons who worked as teachers in the courses described.

Most of the methods used - and there are several of them seem to function rather well if the standards used by the researchers are used as criteria. This means that, if and when a certain teaching strategy is adopted students perform rather well on whatever test or examination used. An undergraduate student may very well encounter several different teaching strategies as he moves from course to course or from one department to another. He may even encounter traditional lecturers which still exist in spite of vigorous experimenting. In an early observational study of teachers in business economics and sociology we found that the teacher dominated the verbal interaction in lessons with groups of appr. 15-30 students. Teacher talk took up appr. 85% of the total time, although the procedure used was originally thought to be an alternative to lectures in the sense that the

"small" group would allow reciprocal interaction (Kallós et al, 1972). The students may in fact listen very attentively to what is being said by the teacher. In an interview study of appr. 100 students in three different subjects a rather clear pattern emerged concerning attendance in classes and its supposed importance. Students regarded teaching as a pre-requisite for passing the exams. They tried to find "secret messages" concerning questions etc. to be given in the exams in the presentation by the teacher. "It is possible to learn one or two things concerning the exams, of course", was a typical answer from one of the students when he was asked why he attended lessons. Testing and examination governed the life of the student as a student to a decisive extent (Kallós & Herálov, 1974).

Various "methods" proposed to solve the existing or imagined problems of university teaching obviously satisfy certain criteria, even if the solutions are different. Today it is probably possible to find diversity in university teaching where uniformity was the common trend earlier. Most of the "new" methods represent possible solutions within the scope of options. One "good" lesson from research and development in the area of teaching at the university is that the eager and willing teacher has an array of methods to choose from. Certain departments may not allow certain methods as, of course, the ultimate decisions do not rest with the individual teacher or his students in many instances. But still the individual teacher at the university seems to have a greater autonomy than his colleague in e.g. the comprehensive school concerning choice of methods and text materials. The choice among the options may be made with an almost complete disregard of what students actually learn, and of course, in many instances have nothing at all to do with any theory of learning or social interaction.

One of the illusions to be destroyed is that the choice of teaching method really matters on a large scale. Firstly, it may be noted that the options are limited, as stressed earlier. Secondly, the use of any one method is always circumscribed by various constraints. Thirdly,

the effects of instruction are not isolated. The life of a person is not primarily defined and determined by teaching and learning. The illusion of emancipation and liberation from the structure may, however, at least for a time be upheld by e.g. the use of project oriented methods, group work etc. A move towards such methods of teaching and study is advocated by those attacking educational technology politically as well as epistemologically. It should, however, be clearly noted that even a false epistemology may work, provided that the power and control mechanisms are firmly in the hands of its proponents, e.g. via the examination procedures used (cf. *Kallós*, 1973b).

I would suggest that one common denominator of the methods used in higher education is that they emphasize the difference between manual and intellectual work. The recent moves towards what *Bernstein* (1975) has labelled as an "invisible pedagogy" at the preschool and at the university level suggest that the socializing functions of undergraduate education are gradually becoming more important structurally. This also corresponds to notions about a shift concerning the qualifications promoted or "installed" by university training. Specific skills and specific knowledge needed in various jobs or professions (technical or productive qualifications) are at the undergraduate level de-emphasized to a certain extent, while at the same time ideological (or intensive) qualifications become more important (cf. *Altvater*, 1971; *Masuch*, 1973). An important area for research on teaching at the university level would be to pursue this line of thought further as it also may be coupled to the changes in the recruitment pattern, and to proposed or already implemented curricular changes. Recent trends in Sweden to adapt the curricula of the university to the needs of the labour market could be mentioned as an example, as well as the introduction of lines of study ending below the BA-level which blurs the boundaries between university education and further education in general.

The "good" lesson thus is rather limited in scope. Theoretically it has to be acknowledged that the attempts ha-

ve been of limited use. The traditional theories of teaching have failed in providing explanations for the appearance and disappearance of various methods of instruction. The increased attention paid to personal development or affective development has also been beyond the scope of traditional theories. Instead, it has even been proposed that theories of teaching should be built around conceptualizations of what teaching ought to be (cf. e.g. Baron, 1975; Johnson *et al.*, 1975b; for recent examples concerned with higher education). The suggestions put forward are fundamentally idealistic and entirely disregard the fact that teaching methods and the contents of teaching in principle are derived from other sources than the ideas or thoughts of researchers. Furthermore, normative statements about what teaching ought to be have at least to be linked to an analysis of the social forces in the society in question that have an interest in changes in the recommended direction. But, the proponents of prescriptive or normative theories speak about teaching as if their suggestions appealed to common interests, e.g. derived from a psychological analysis of man and his needs. This procedure, of course, means a total refutation of the fact that education cannot be conceived of as independent of the particular political and economic structure of the society in question. On the other hand discussions like that of e.g. Baron (1975) serves to uphold the illusion that teaching (its aims and methods) can be discussed and analyzed without any reference to the society in question, and that the planning of teaching (its aims and methods) is a rational affair that can be founded upon a mainly psychological analysis.

IN CONCLUSION.

The basic aim of pedagogical research on teaching methods should be to describe existing practices and to work out theories which will allow us to explain the causal relationships that gave birth to these practices and that uphold the existing pattern.

The majority of studies aiming at description, explana-

nation, or evaluation of existing practices have, however, failed to explore the links between actual processes of teaching and their determinants. Theory and practice are thereby kept apart.

In this context it should be noted that even pedagogical research within our society takes place within the existing social distribution of work. This means that pedagogical research is a professional activity carried out by a group with access to certain economic and intellectual resources. The researcher is more or less clearly attached to the state apparatus and thereby to the ruling class. Even research based on a materialistic conception cannot avoid these institutional conditions and this distribution of work within our society (cf. Kallós & Callewaert, in press).

One of the further lessons from research on teaching methods at the university level is that such research probably is rather unimportant within the area of pedagogical research as such. The study of teaching in general, however, traditionally and justly occupies a central position within the discipline of pedagogics. What I would suggest is that teaching and teaching methods at the university level is of little significance in the perspective of necessary social change. I have tried to advocate that the study of teaching must be linked to an analysis of the determinants of that activity (cf. Kallós, 1976). Teaching methods in higher education must then be studied as they are related to the objective functions of the universities in the societies of advanced capitalism. Social liberals seem to pin great hope on the possible contributions of the university to a transformation of the society, and they also seem to have similar thoughts about schooling in general (cf. Bowles & Gintis, 1976, pp. 18-49). Carnoy & Levin (1976, p. 4) contrast the high hopes to the actual situation by stating:

"Why did education fail and can it succeed in eliminating poverty and achieving other "desirable" social changes? In our view the schools of a society serve to reproduce the economic, social, and political relations, and the only way that schools can change those relations is through their unforeseen

consequences rather than through planned and deliberate change. In this sense we argue that a society based on largely unequal positions of power, income, and social status among adults will not be able to alter those relations through the schools. To the contrary, the schools will tend to reproduce the inequalities in order to contribute to the legitimization of adult society."

The specific role of the university in this process of reproduction is somewhat obscured today, as has been noted earlier in this paper. One might, however, state rather confidently that the universities of today are not the institutions that will be of prime importance in bringing about a radical change of an unjust society. The recruitment of students and teachers are firmly in the hands of other interests, and teaching is on the whole not "critical" and not "pluralistic" in the sense that the student is confronted with conflicting theories. Within rather narrow limits there, however, still exists some possibilities for serious research on fundamental issues even in the social sciences at least in my country.

I have tried to emphasize that the space of options is limited for those aiming at change in a radical direction. In discussions about teaching at the university level today many emphasize the importance of student participation and the need to break with authoritarian patterns. Such demands seem to have broad support. At the same time tendencies may be observed which are contrary to those aspirations.

As a pedagogical researcher I cannot fail to notice the situation in countries with political and economic systems similar to that of my own. I therefore wish to call your attention to the present situation in the Federal Republic of Germany, where the restrictions and the repressive measures taken are much more open and violent than in other countries of Western Europe. The adopted policy of prohibition of professional activities, i.e. the so called "Berufsverbote", clearly demonstrates the limits of "Lern- und Lehrfreiheit". The measures taken have been directed primarily towards social scientists and teachers. Several of our colleagues have been prevented from carrying on important scientific research.

The effects on younger students have been profound and free and critical discussions like the one that is taking place here and now are threatened.

One final and encouraging lesson is provided by this example. Research and teaching may matter. But, fundamental and critical research cannot exist at the universities if it is not defended and anchored politically. As researchers who take an active interest in teaching at the university level it is our duty today not to remain silent by stating that the current events in the Federal Republic of Germany are beyond the scope of science²⁾.

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2. The proposal to pass a resolution protesting against „Berufsverbote“ and similar measures in the Federal Republic of Germany was put to the participants of the second congress of the European Association of Research and Development in Higher Education where this paper was presented. The resolution was accepted unanimously by the participants of the Congress.

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as it is related to the university studies as such and to the social context to which these studies belong (cf. Kallós, 1976; Kallós & Lundgren, 1976a, 1976b).

Traditional research on teaching methods thus failed to relate teaching to the social structure of which it is a part. Research became largely technological in character. As the teaching methods were derived from psychological sources - and never related to the objective functions of teaching - means and ends got confused. Teaching was regarded as an activity that promotes learning. The fact that the selection and organization of contents, as well as the common methods used in teaching also serve other purposes than that of "improving knowledge" was not recognized. The selection of contents is - as mentioned above - not a neutral process and the effects of teaching are not restricted to the learning of a particular content.

In a situation at the university level where an increased number of students had to be allowed entrance, and where the tasks of socializing an élite became "contaminated" with more humble duties issues like university teacher training and improvement of teaching methods became prominent. It is interesting to note that practically all research efforts concerning teaching methods at the university level have been conducted with undergraduates taking their first courses at the university or beginning their studies in a certain subject.

The constraints of a certain narrow view of science - positivism - and of a narrow view of teaching have played an important role in preventing research to concern itself with fundamental issues. Traditional research on teaching methods at the university level may at a deeper level be regarded as pseudo-scientific, masking this character e.g. by impressive references to learning theory and measurement theory. The weak theoretical foundation of teaching research blurs the boundaries between such research and that activity commonly referred to as development in the familiar notion of "Research and Development".

IS THERE ANYTHING GOOD TO SAY ABOUT WHAT WE ALREADY KNOW?

Traditional research on teaching methods at the university